

REMARKS/ARGUMENTS

The Examiner's attention to the present application is noted with appreciation. The specification has been amended to correct typographical errors. Claims 4 and 16 are canceled, and a new claim 24 is added.

The Examiner indicated that claims 13 and 24 are identical. Claim 24 has been amended, thus changing its dependency from claim 1 to claim 14.

One paragraph of the specification is amended to eliminate a typographical error.

The Examiner rejected claims 1-5, 8, 9, and 14-16 under 35 U.S.C. § 102(b) as being anticipated by Hennessy. This rejection is overcome by amendments to the claims. Applicants claim, in the claims as amended, a method for determining the location of the interface between fat and lean tissue in a cut of meat wherein the light originates at a source located remotely to the probe, which light travels through optical fiber. As discussed throughout the specification, i.e. page 5, line 30, to page 6, line 1; and page 10 lines 6-10, Applicants place the light source remotely from the probe. By placing the light source remotely from the probe, Applicants minimize the diameter of the probe, which also minimizes damage to the meat when the probe is inserted. See, for example, specification page 8, lines 4-6 and 26-27; page 10, lines 6-10. Significantly, Applicants' invention minimizes damage to comestible meat tissue.

In contrast, Hennessy has a broader probe that penetrates fat, and damage to the fat layer is inconsequential – permitting a larger-diameter “lance.” Hennessy fails to disclose the ability to provide the light source remotely from the probe. Col. 2, lines 14-15 of the Hennessy patent discloses that the photocell, light source, and electrical connections are provided *within the lance*. Notably, Hennessy emphasizes that the light source, located in the lance, is one of two key “reference points” – the distance between which is measured to ascertain the total thickness of the fat layer. Hennessy col. 1, lines 23-35 and col. 2, lines 28-38. Hennessy nowhere suggests that the light source can be remotely located away from the lance.

Thus, Applicants' invention is directed toward a device for locating the location of the interface between fat and lean tissue, not a device for measuring fat thickness between (and accommodating for differences between a hot and cold carcass) as taught by Hennessy. Since Hennessy fails to disclose a device having the light source remotely located from the lance or probe, Hennessy also fails to mention any use of optical fibers to transmit light, as now claimed

by Applicant. Independent claim 1 has been amended to include a light source remote from the probe, as well as optical fiber. Claim 5 has also been amended such that light from the light source now travels through optical fiber to the at least one emission aperture. Claim 5 has also been amended such that reflected light is now transmitted from the reception aperture through optical fiber to the light detector. Claim 14 has been amended such that the light is generated at a source external from the probe. Claims 1-5, 8, 9, and 14-16 are thus believed allowable over Hennessy, which teaches none of these features.

Independent claims 1 and 14 also are amended to recite probe tips having a specified shape and a “point.” While Hennessey shows a pointed lance, the recitation in the amended claims of a probe tip having a “point” further emphasizes the non-obviousness of the claimed invention.

The Examiner rejected claims 6, 7, 10-13, and 17-22 under 35 U.S.C. § 103 as being unpatentable over Hennessy in view of Borsboom, and further in view of Coleman et al. The rejection is traversed. Applicants submit that neither the Colman et al. nor the Borsboom apparatuses are properly combined as the basis of an obviousness rejection.

The invention of Borsboom is a colorimeter which must be calibrated before each use (Col. 5, Line 45, to Col. 6, Line 11). The calibration setup required for use of the Borsboom device is quite involved, the essential steps of that calibration include:

- 1) immersion of the measuring tip into a clear liquid material which is contained within a beaker having a dull black interior, the tip must be well spaced from the bottom of the container;
- 2) the index of refraction of the liquid must be known;
- 3) adding to the liquid a white insoluble powder having a known particle size or known particle size distribution;
- 4) using the abovementioned steps, 3 solutions are prepared such that the 1st provides 30% deflection, the 2nd provides 30% deflection, and the 3rd provides 200% deflection;
- 5) make 4 sub solutions of each of the 3 solutions for a total of 12 samples;
- 6) to each of these samples, precise amounts of color are added;
- 7) and others.

Because Borsboom’s device is not intended to be inserted into a solid or semi-solid material, such as meat, it does not require a narrow, sharp, probe with a minimized diameter – it does not

need a “tip” as claimed in amended claims 1 and 14. The device of Borsboom, being wholly unsuitable for use in probing a solid material, teaches away from Applicant’s probe as claimed. A person of ordinary skill in the art at the time the invention was made would not be motivated, and would find no suggestion in the relevant art, to modify the Hennessey device to accommodate the features of Borsboom.

Use of Applicant’s invention does not require immersion in a clear liquid. Use of Applicant’s invention does not require a beaker having a dull black interior. Use of Applicant’s invention does not require the index of refraction of any substance to be known. Use of Applicant’s invention does not require that white insoluble powder having a known particle size be used. Use of Applicant’s invention does not require the preparation of 3 separate solutions. Use of Applicant’s invention does not require creating a total of 12 separate samples. Also, Applicant’s invention does not require precise amounts of color be added to numerous samples. Since Borsboom teaches that these steps are required before the device is used, this teaches away from Applicant’s invention which is directed toward a device which can be used repeatedly “in high-volume commercial meat processing facilities” (page 1, line 29). Anyone wishing to design an apparatus for use in “high-volume commercial meat processing facilities” would certainly not look to a device which requires the complex, exacting, and time consuming setup steps of the device disclosed by Borsboom. Again, Applicants claim in former claims 4 and 16 (whose subject matter has been imported into claims 1 and 14, respectively) a probe that is conical or frusto-conical and having a “point.” Borsboom lacks a pointed tip entirely, since Borsboom does not insert his probe, he merely “dips” it into the fluid to be analyzed.

The invention disclosed by Coleman is a medical apparatus, wherein fluids are aspirated into a sample cavity. Applicant’s invention does not aspirate fluids of any type, nor does Applicant’s invention have a sample cavity. Because Coleman et al. focus on aspirating material, they teach away from Applicant’s invention. Even if an entire cut of meat could be aspirated into the sample cavity of the Coleman et al. invention, that invention would still not be capable of determining where to guide a cutting device such that fat is trimmed near a meat and fat interface. Pivotal to the functioning of the Coleman device, however, is the notion that a material is aspirated into a chamber for analysis. Absolutely nothing about the Coleman et al. disclosure is indicative of the notion of using it as a “locator” tool – much less a tool for the location of the

interface between fat and lean tissue in a cut of meat. Not being a measuring or locating device at all, Coleman et al. is not properly combinable with Hennessy as the basis of an obviousness rejection.

Further, neither Borsboom, nor Hennessy, nor Coleman et al., disclose or even hint that their disclosures should be combined, or that doing so could produce desirable results. Even if the seemingly inapposite disclosures of Hennessy, and Borsboom, and Coleman et al. could somehow be combined into one device, Applicant's invention would not result. Combining the three devices would result in a device which requires numerous setup steps before aspirating a liquid into a sample chamber. The device would also have a probe with a light source and a detection device disposed within the probe, as well as a light source and a detection device disposed outside of the probe.

Claims 6, 7, 10-13, and 17-22 are believed to be allowable over Hennessy in view of Borsboom and further in view of Coleman et al.

A new claim 24 is added. Claim 24 recites in a single claim several of the distinctive features of the invention, and is added to further point out and distinctly claim subject matter which Applicants regard as their invention.

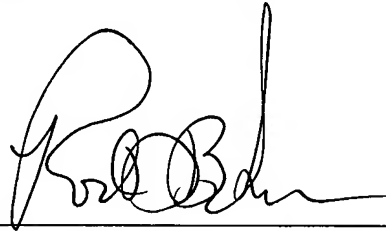
The Examiner indicated that prior art made of record but not relied upon were considered pertinent to Applicant's disclosure. Aignel et al., Anderson et al., and Richmond et al. disclose devices which are used to determine the tenderness and quality of meat. None of these, however, disclose a device capable of determining the thickness of a layer of fat. Northeved et al. disclose a device which is used to determining the degree of marbling within the meat, the device can be inserted in 256 steps, and the memory must thus comprise 256 locations. Kundsens discloses a gun-like device. A probe is shoved into the carcass and a user looks through a large glass rod. A spring-loaded mechanical scale is provided by which a user can determine the thickness of a layer of fat. Kundsens fails to disclose a lighting source which is external to the probe. Kundsens also fails to disclose any type of a light detector, much less one which is connected to a tip of the probe by an optical fiber.

In view of the above amendments and remarks, it is respectfully submitted that all grounds of rejection and objection have been avoided and/or traversed. It is believed that the case is now in condition for allowance and same is respectfully requested.

If any issues remain, or if the Examiner believes that prosecution of this application might be expedited by discussion of the issues, the Examiner is cordially invited to telephone the undersigned attorney for Applicant at the telephone number listed below. The number of claims is reduced, and the total number of independent claims remains less than four, so no additional claims fee is believed to be due. Nevertheless, authorization is given to charge payment of any additional fees required, or credit any overpayment, to Deposit Acct. 13-4213.

Respectfully submitted,

By:

A handwritten signature in black ink, appearing to read 'Rod D. Baker', written over a horizontal line.

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